MARIYENBAKH, L.M.; CHERNYY, A.A.

Optimal shape of the inside of cupolas. Lit.proizv. no.7:6-10 Jl '64. (MIRA 18:4)

MARIYENBAKH, L.M., doktor tekhn. nauk; CHERNYY, A.A., inzh.; GRACHEV, V.A. inzh.; KURBATSKIY, I.L., inzh.; PAVLENKO, N.S., inzh.; KHILYUK, A.S., inzh.

Gas-fired cupola furnace. Lit. proizv. no.1:12-13 Ja '66.
(MIRA 19:1)

CHERNYY, A.I.

VOSKOBOYNIK, D.I.; YERSHOV, N.N.; SEMENOV, Yu.V.; ZIMMERMAN, M.N.; CHERNYY, A.I., SHPOL'SKIY, E.V., professor, redaktor.

[English-Russian dictionary of nuclear physics and engineering] Anglo-russkii slovar' po iadernoi fizike i tekhnike. Pod red. E. V. Shpol'skogo. Moskva, Akademiia nauk SSSR, Institut nauchnoi informatsii, 1955. 286 p. (MLRA 8:10)

(Nuclear physics--Dictionaries)
(Nuclear engineering--Dictionaries)

YERSHOV, N.N.; SEMENOV, Yu.V., kandidat filologicheskikh nauk; CHERNYY, A.I.; VOSKOBOYNIK, D.I., doktor tekhnicheskikh nauk, nauchnyy redaktor

[Russian-English dictionary of nuclear physics and engineering. Edited by D.I.Voskovoinik. Moscow, 1955. [i.e.East Orange, N.J., Associated Technical Services, 1957] 349 p. (MLRA 10:3)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.
(Russian language--Dictionaries--English)
(Nuclear physics--Dictionaries)

CHERNYY, A.I.

Some problems in designing information retrieval systems.
NTI no.1:24-30 '63. (MIRA 16:8)

CHERNYY, A.I.

Formal exposition of some general principles of information retrieval. NTI no.3:21-30 '63. (MIRA 16:11)

CHERNYY, A.I.; MATSAK, N.M.; KUZNETSOVA, E.K.

Preparing a permutation index with the aid of a punched-card computer. NTI no.4:20-29 '64. (MIRA 17:6)

CHERNYY, A.I.; MATSAK, N M.; GASANOVA, T.G.

Technology of preparing a permutation index of headings with the aid of alphabetical punched-card machines. NTI no.8: 20-26 '64. (MIRA 17:12)

CHERNYY, A.I.

Potentialities for reducing the cost of repairs. Mashinostroitel' no.8:16 Ag '62. (MIRA 15:8)
(Machine tools--Maintenance and repair)

CHERNYY, A.I., inzh.

Improving the flaw detection and reconditioning of machine parts in the machinery industry. Vest.mashinostr. 43 no.2:78-82 F '63. (MIRA 16:3)
(Industrial equipment--Maintenance and repair)

LEBEDEV, G.A.; CHERNYY, A.I.

International Congress and Exhibition of Science and Technology Documentation and Information, Rome, 1964. NTI no.12:22-27 '64. (MIRA 18:3)

CHERNYY, A.I.; CHERNYY, I.I.

Assembly of equipment for documentary information retrieval systems on superimposed punched cards. NTI no.9:28-31 '65.

CHERNYY, A.I., kand. ekonom. nauk

Using computers in planning equipment repair. Mashinostroitel' no.10: 11-13 O '65. (MIRA 18:10)

L 29915-66 JXT(BF)

ACC NR: AP6006591 SOURCE CODE: UR/0315/65/000/009/0028/0031

24
B

AUTHOR: Chernyy, A. I., Chernyy, I. I.

ORG: none

TITLE: Equipment for information retrieval systems using peek-a-boo punched cards

SOURCE: Nauchno-tekhnicheskaya informatsiya, no. 9, 1965, 28-31

TOPIC TAGS: information storage and retrieval, computer input unit, punched card

ABSTRACT: Equipment is described suitable for setting up information retrieval systems based on peek-a-boo punched cards. The equipment consists of a bank of cards (capacity 9000 documents per card), an electrically powered card punch, and a peek-a-boo viewer. The cards measure 282 × 253 mm and have a grid system for 100 × 90 perforations. The card, perforator and viewer are described and shown in photographs. The equipment was developed in the Scientific Methods Division of VINITI. Orig. art. has: 7 figures.

SUB CODE: 05/ SUBM DATE: 30Jul65/ OTH REF: 003

UDC: [002.513.5:676.815.2].002.5

Card 1/1

MIKHAYLOV, Aleksandr Ivanovich; CHERNYY, Arkadiy Ivanovich; GILYAREVSKIY, Rudzhero Sergeyevich

[Principles of scientific information] Osnovy nauchnoi informatsii. Moskva, Nauka, 1965. 654 p.
(MIRA 18:9)

POPOV, V.D.; CHERNYY, A.M.

Modifications in the viscosity of the mother liquor in the boiling of second product massecuite. Trudy KTIPP no.17:109-113 '57. (MIRA 13:1)

(Sugar manufacture)

CHERNYY, A.M.;SUPRUNOVSKIY, I.V.

Viscosimeter with automatic start of the timer. Trudy KTIPP no.19:207-209 '58. (MIRA 12:12)
(Viscosimeter) (Sugar--Analysis and testing)

CHERNYY, A. M., Cand Tech Sci -- "Study of the thermophysical properties of solutions of sugar for the purpose of increasing the accuracy of designs of food equipment." Kiev, 1960 (Min of Higher and Secondary Specialized Education UkSSR. Kiev Technological Inst of Food Industry). (KL, 1-61, 199)

CHERNYY, A.M.

Investigation of thermophysical properties of sugar solutions. Izv. vys. ucheb. zav.;pishch. tekh. no.3:150-157 '60. (MIRA 14:8)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti, Kafedra spetsoborudovaniya.
(Sugar manufacture)

ZARECHANSKIY, Ye.L.; CHERNYY, A.M.

Experimental investigation of the specific weight of waste alkalies from the separation shops of sugar factories. Trudy KTIPP no.25: 122-123 '62. (MIRA 16:5)
(Alkalies) (Sugar industry—By-products)

CHERNYY, A.M.

Automatic photoelectronic counter of sugar sacks on the conveyor. Sakh. prom. 37 no.4:32-34 Ap '63. (MIRA 16:7)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti imeni Mikoyana.
(Photoelectric measurements)
(Sugar industry—Equipment and supplies)

CHERNYY, A.M.; ZARECHANSKIY, Ye.L.

Heat conductivity, temperature conductivity, and heat capacity of spent liquor. Izv.vys.ucheb.zav.; pishch.tekh. no.5:124-125 '63. (MIRA 16:12)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti, kafedra avtomatiki.

ISAYEV, A.I., doktor tekhn.nauk prof.; CHERNYY, A.P., inzh.

Designs of screw taps for cutting large-diameter cylindrical threads. Energomashinostroenie 4 no.5:38-39 My '58. (MIRA 11:9)
(Taps and dies)

CHERNYY, A.P.

PHASE I BOOK EXPLOITATION SOV/4804

Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Nekotoryye voprosy tekhnologii tyazhelogo mashinostroyeniya, chast' 2: Obrabotka metallov rezaniyem i kontrol' kachestva detaley (Some Problems in the Manufacturing Processes of Heavy Machinery, Pt. 2: Metal Cutting and Quality Control of Parts) Moscow, Mashgiz, 1960. 173 p. (Series: Its: [Trudy] kn. 99) 2,500 copies printed.

Sponsoring Agencies: Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu; Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.

Ed.: Ye.P. Unksov, Doctor of Technical Sciences, Professor; Managing Ed. for Literature on Heavy Machine Building: S.Ya. Golovin, Engineer; Ed. of Publishing House: G.N. Soboleva; Tech. Ed.: Z.I. Chernova.

PURPOSE: This book is intended for technical personnel in heavy-machinery plants and for scientific workers in factory laboratories and research institutes.

Card 1/4

COVERAGE: The book contains a summary of work conducted by the personnel of TsNIITMASh in the field of mechanical machining and quality control of parts. Included is a discussion on the correct combination of depth, feed, and speed in cutting with maximum capacity of the machine tool. Also considered are the development of machining methods in rough and semifinishing production, and the application of ultrasonic devices for flaw detection and measurement of wall thickness. No personalities are mentioned. References follow some of the chapters.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

ZOREV, N.N., doktor tekhn.nauk; TASHLITSKIY, N.I., kand.tekhn.nauk; KUCHMA, L.K., kand.tekhn.nauk; VERSHINSKAYA, A.D., inzh.; OVUMYAN, G.G., inzh.; ISAYEV, A.I., doktor tekhn.nauk; KIRILLOVA, O.M., kand.tekhn.nauk; KATSNEL'SON, V.Yu., inzh.; LAPIN, N.A., kand.tekhn.nauk; FEDOROV, N.M., inzh.; CHERNYY, A.P., inzh.; MOROZOV, N.A., inzh.; DOGAK, N.S.; ANDREYEV, G.S., kand.tekhn.nauk; MIKHAYLENOK, Ye.I., kand.tekhn.nauk; MAKAREVICH, B.K., kand.tekhn. nauk; YEREMIN, N.I., kand.tekhn.nauk; YERMOLOV, I.N., inzh.; UNKSOV, Ye.P., doktor tekhn.nauk, prof., red.; SOBOLEVA, G.N., red.izd-va; CHERNOVA, Z.I., tekhn.red.

[Engineering problems in the manufacture of heavy machinery] Nekotorye voprosy tekhnologii tiazhelogo mashinostroeniia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry. Pt. 2 [Metal cutting and quality control of parts] Obrabotka metallov rezaniem in kontrol' kachestva detalei. 1960. 173 p. (Moscow. TSentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashinostroeniia. [Trudy], vol.99). (MIRA 13:8)

(Machinery industry)
(Metal cutting)
(Quality control)

S/590/61/102/000/001/005
D040/D113

AUTHORS: Isayev, A.I., Doctor of Technical Sciences, Professor, and Chernyy, A.P., Engineer

TITLE: Investigation of the process of cutting internal cylindrical threads of large diameter

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya. [Trudy] v. 102, 1961. Issledovaniye tekhnologicheskikh protsessov v tyazhelom mashinostroyenii, 5-44

TEXT: The results are given of an investigation conducted by the authors at the Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Machine Building), and technical recommendations are made for selecting designs for cutting tools. Difficulties in cutting large internal threads using tap sets in parts, such as turbine casings, are discussed and reasons for inaccuracies are classified and analyzed. The study was conducted to find ways of improving the accuracy of 60-200 mm diameter threaded bores in power machinery.

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Investigation of the process ...

Various thread-cutting systems were compared because of the lack of published data on their effectiveness. Experiments were conducted using special split specimens of Cr-Mo, Ni, and austenitic steel, and cut surfaces were measured using the "copy method" and a Linnik's double microscope. None of the tested cutting methods resulted in removing the allowance from both sides of the thread groove; the highest profile accuracy and best surface finish were obtained with the cutting system based on the use of a thread-cutting head. The forces acting on a tap in the cutting process are analyzed to illustrate how much the real cutting process differs from the theoretical, and it is demonstrated that the undercutting of thread can be eliminated and the cutting accuracy raised if taps are provided with a guiding front portion so that every subsequent tap in a set fits the trace left by the preceding tap (Fig.14). The new taps based on this principle are described and illustrated. These taps, called M 72 (M72), should be solid for threading bores of up to 100 mm diameter, and with removable cutting tips for diameters above 100 mm. The material of the cutting portion of the taps was P 18 (R18) high-speed steel. The recommendations include the cutting and relief angles for threading dies used in thread-cutting heads for cutting different steel

Card 2/7

grades - the austenitic ЭИ 680 (EI680) and ЛА-1(LA-1) steels, and Cr-Mo steel of 20ХМ (20KhM) grade. The design and performance of new safety tap holders, which are mor sensitive to overloads than analogous friction type holders are described. Soviet researchers are stated to have discovered the causes of the formation of micro-unevenness on machined surfaces; in a previous study (Ref.1: Protsess obrazovaniya poverkhnostnogo sloya pri obrabotke metallov rezaniya [Formation process of a surface layer in working cutting metals], Mashgiz, 1950) Professor A.I. Isayev established that the state of the surface depends on the conditions of metal flow at the cutting edges of tools. The effect of the geometric parameters of the cutting portion of the tool, cutting speed, cutting fluid, and wear of the cutting portion in operation was studied, using a set of M 72 x 3 taps in a vertical drilling machine. The following conclusions were drawn concerning thread cutting by taps, and thread-cutting heads: I. Cutting by taps. - (1) Errors resulting from faults in the cutting system of a set of taps, and errors produced by forces arising in the cutting process mainly affect thread cutting accuracy. (2) The use of safety tap holders with a compensating element for axial forces considerably reduces the undercutting of the thread. (3) The system-

atic defect of undercutting may be fully eliminated by using the new tap design with a guiding cutting portion. (4) The cutting speed together with the cutting fluid affects the variations in the mean diameter. The combined effect of systematical and random factors results in mean diameter variations from 20 to 80μ. (5) Variations in the guiding portion taper angle φ from 8° to 18°30' and of the rake angle γ from 5° to 20° within the cutting speed range of V = 1.2 ÷ 10 m/min do not materially affect the variations in the mean thread diameter, i.e. the variations are within 20-40μ, which is within the tolerance field for class 2 accuracy. (6) Within the investigated cutting speed range, a variation in the rake angle of γ = 5° ÷ 20° does not materially affect the smoothness of the machined surface, i.e. the average height of unevenness is 1.5 to 2μ. (7) Reduction in the taper angle φ from 18°30' to 8° helps reduce micro-unevennesses by 2.0 - 3.0μ. (8) Generally in tapping using the self-tightening method, the smoothness of the upper and bottom flank on the thread differs. This difference is caused by forces arising in the cutting process, and it corresponds to the difference between two classes of finish. (9) The following geometric shape of the tap work-portion may be recommended for tapping 20XM(20KhM) type steel: (a) For

Investigation of the process ...

through holes, using a set of three taps: for rough taps - $\varphi_{1,2} = 4^\circ \div 7^\circ$; $\gamma = 5^\circ \div 10^\circ$; $\lambda = 2^\circ \div 4^\circ$; $\alpha = 5^\circ \div 8^\circ$; for the finish tap - $\varphi_3 = 8^\circ$; $\gamma = 8^\circ \div 10^\circ$; $\lambda = 2^\circ \div 4^\circ$; $\alpha = 5^\circ \div 8^\circ$; (b) for blind holes, using a set of three taps: for rough taps - $\varphi_{1,2} = 4^\circ \div 12^\circ$; $\gamma = 5^\circ \div 10^\circ$; $\lambda = 2^\circ$; $\alpha = 3^\circ \div 5^\circ$; for the finish tap: $\varphi = 18^\circ$, $\gamma = 8^\circ \div 10^\circ$, $\lambda = 2^\circ$, $\alpha = 3^\circ \div 5^\circ$. II. Cutting by thread-cutting heads. - (1) Heads operating according to the unilateral cutting system have considerable advantages over solid taps. (2) Proper design and geometry of the cutting portion of threading dies ensure class 2 accuracy and thread flanks' smoothness class 7 in threading austenitic refractory steel. (3) The КБ (KB) threading heads of the "Frezer" zavod (Plant) may be recommended for low-pitch thread (S = 1.0; 1.5; 2.0 mm) cutting in single pass in austenitic refractory steel. (4) The threading head designs developed at TsNIITMASh are recommended for large-pitch thread (S = 3 ÷ 5 mm) cut in several passes. (5) The following geometry of threading dies is recommended for internal thread cutting in austenitic refractory steel of EI680 and LA-1 steel grades: $\varphi = 8^\circ \div 12^\circ$; $\gamma = 12^\circ \div 15^\circ$; $\lambda = 2^\circ \div 3^\circ$; $\alpha = 4^\circ \div 5^\circ$; relief angle from 1° to $1^\circ 30'$. The recommended cutting speed is from 1 to 4/min. It is recommended to use an 8-10%

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Investigation of the process ...

aqueous emulsol solution and sulfofrezol as cutting fluids. (6) The use of safety holders is obligatory when using threading heads. The safety holders developed by TsNIITMASh are recommended for cutting with threading heads according to the self-thickening method in several passes. These holders ensure displacement of the head in the feed direction independent of the machine tool spindle, as well as a gaged axial force acting on the head during incision into the metal. There are 39 figures, 7 tables and 6 Soviet references.

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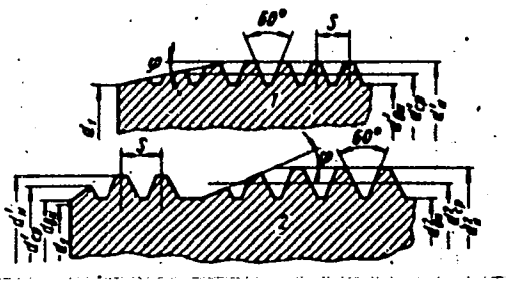

Fig. 14. The guiding work portion of the tap.
1 and 2 - the sequence number of the tool.

CHERNYY, A.S.; RETLING, V.K.

Precast reinforced concrete slaking towers for coke-oven batteries. Prom.stroi. 37 no.12:24-26 D '59. (MIRA 13:4)

1. Chelyabmetallurgstroy (for Chernyy). 2. Chelyabinskiy Promstroyproyekt (for Retling).
(Coke ovens) (Precast concrete construction)

ZIL'BER, M.K., kand.tekhn.nauk; CHERNYY, A.S., inzh.; ZHAVRID, A.I., inzh.; MUSATOV, V.M. [deceased], inzh.

Operating a slag pumice unit with a stationary tank at the Chelyabinsk Metallurgical Plant. Stroi. mat. 7 no.4:10-12 Ap '61. (MIRA 14:5)

(Slag) (Aggregates (Building materials))

CHERNYY, A.S.; GEMMERLING, G.V.; GLANTS, A.I.

Slag pumice concrete is an effective material for the manufacture of exterior wall slabs. Stroi. mat. 9 no.4:19-22 Ap '63. (MIRA 16:5)

1. Glavnyy inzhener tresta Chelyabmetallurgstroy (for Chernyy).
2. Ural'skiy filial Akademii stroitel'stva i arkhitektury SSSR (for Glants).

(Lightweight concrete) (Walls)

CHERNYY, A.S., inzh.

Introduction of precast concrete has improved the indices of the work of the Chelyabinsk Metallurgical Construction Trust. Prom. stroi. 41 no.8:20-23 Ag '64. (MIRA 17:11)

CHERNYY, Aleksandr Sergeyevich

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S/144/60/000/008/004/006/XX
E041/E335

AUTHORS: Nikitenko, A.G. and Chernyy, A.S.

TITLE: Computation of the Dynamic Characteristics of AC Apparatus on Electronic Analogue Computers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, No. 8, pp. 8 - 18

TEXT: The design of automatic control systems requires a knowledge of the transfer functions of the component devices. Alternating current devices are difficult in this respect. Existing analytic or semigraphical methods are inaccurate. The author has previously published a paper (Ref. 1) on using an analogous computer for DC devices and in the present paper the use of analogue computers for calculating the dynamic characteristics of AC devices are dealt with. The example chosen is that of an electromagnetic relay with rectilinear magnetic circuit and parallel-connected windings (Fig. 1). The magnetic properties of the iron are assumed to be linear. The computer used was the type MIT-5 (IPT-5). The basic equations are:

Card 1/6 Novocherkassk Polytech Inst.

Computation of the Dynamic Characteristics of AC Apparatus on Electronic Analogue Computers

$$U_m \sin(\omega t + \alpha) = ir + \frac{d\Psi}{dt} = ir + \frac{d(Li)}{dt} \qquad (1)$$

for the electrical circuit of the relay windings;

$$F_{el} = M \frac{d^2x}{dt^2} + F_{counter} \qquad (2)$$

for the motion of the moving system, and for the forces:

$$F_{el} = 5.li^2 \frac{dL}{dx} \qquad (3);$$

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E041/E335

Computation of the Dynamic Characteristics of AC Apparatus on Electronic Analogue Computers

$U_m \sin(\omega t + \alpha)$ - instantaneous voltage at the terminals of the relay winding, V;

U_m - amplitude of the voltage on the terminals of the relay winding, V;

α - phase of the voltage at the instant of switching on the relay;

i - instantaneous current in the relay winding, A;

r - resistance of the relay winding circuit, ohm;

Ψ - flux coupling of the relay winding, Vsec. It is assumed that this value depends solely on i and on the travel x of the mobile system;

F_{el} - instantaneous value of the pulling force of the electromagnet, kg;

M - mass of the mobile system of the relay, kg sec^2/cm;

x - travel of the mobile system, cm;

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E041/E335

Computation of the Dynamic Characteristics of AC Apparatus on Electronic Analogue Computers

$F_{counter}$ - force acting against motion of the moving system of the relay, kg;
L - inductance of the system, in henry.

It is assumed that the inductance L depends only on the position of the armature. The character of the transient response depends strongly on the initial phase angle of the alternating voltage and this is an important parameter. Fig. 2 is a block diagram of the simulation, the separate functions of the blocks being indicated in Fig. 3. In Fig. 2, blocks 1, 2 and 3 make up a signal generator. If the signal and a voltage representing - ir are applied to the integrator 4, its output is a quantity - iL. (These are "machine" quantities). If -iL and 1/L are fed to the separate inputs of multiplier 5, its output will be - i. The rest of the equation system (1), (2) and (3) is similarly built up. The relay investigated had the following parameters: operating voltage 220 V; winding resistance 194 ohm; air gap 6 mm.

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Computation of the Dynamic Characteristics of AC Apparatus on Electronic Analogue Machines

The values of "initial" phases were 0°, 30°, 45°, 60°, 90°. In Figs. 4, 5, 6 and in Table 1, inductance and its reciprocal (Fig. 4), dL/dx (Fig. 5) and the restoring force $F_{counter}$ (Fig. 6) are shown. Figs. 7 to 11 show the transient behaviour of applied voltage (U), current (i), armature displacement (X), force (F) and velocity (V). Fig. 12 gives the dependence of the operating time of the relay on initial phase angle. This time is a minimum for an initial phase of 30° and varies between 0.0138 and 0.0203 seconds. An appendix is devoted to the detailed scaling of the circuit equations to suit the machine.

There are 12 figures, 1 table and 2 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut
(Novocherkassk Polytechnical Institute)

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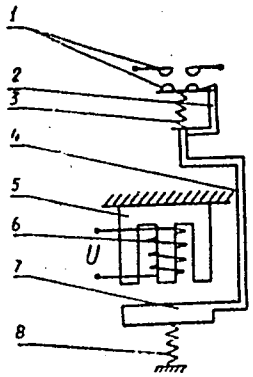
Computation of the Dynamic Characteristics of AC Apparatus on Electronic Analogue Computers

Fig. 1: Sketch of an AC relay

1 - contacts; 2 - rest;
3 - contact spring;
4 - supporting clamp;
5 - yoke; 6 - winding;
7 - armature;
8 - return spring.



SUBMITTED: June 20, 1960

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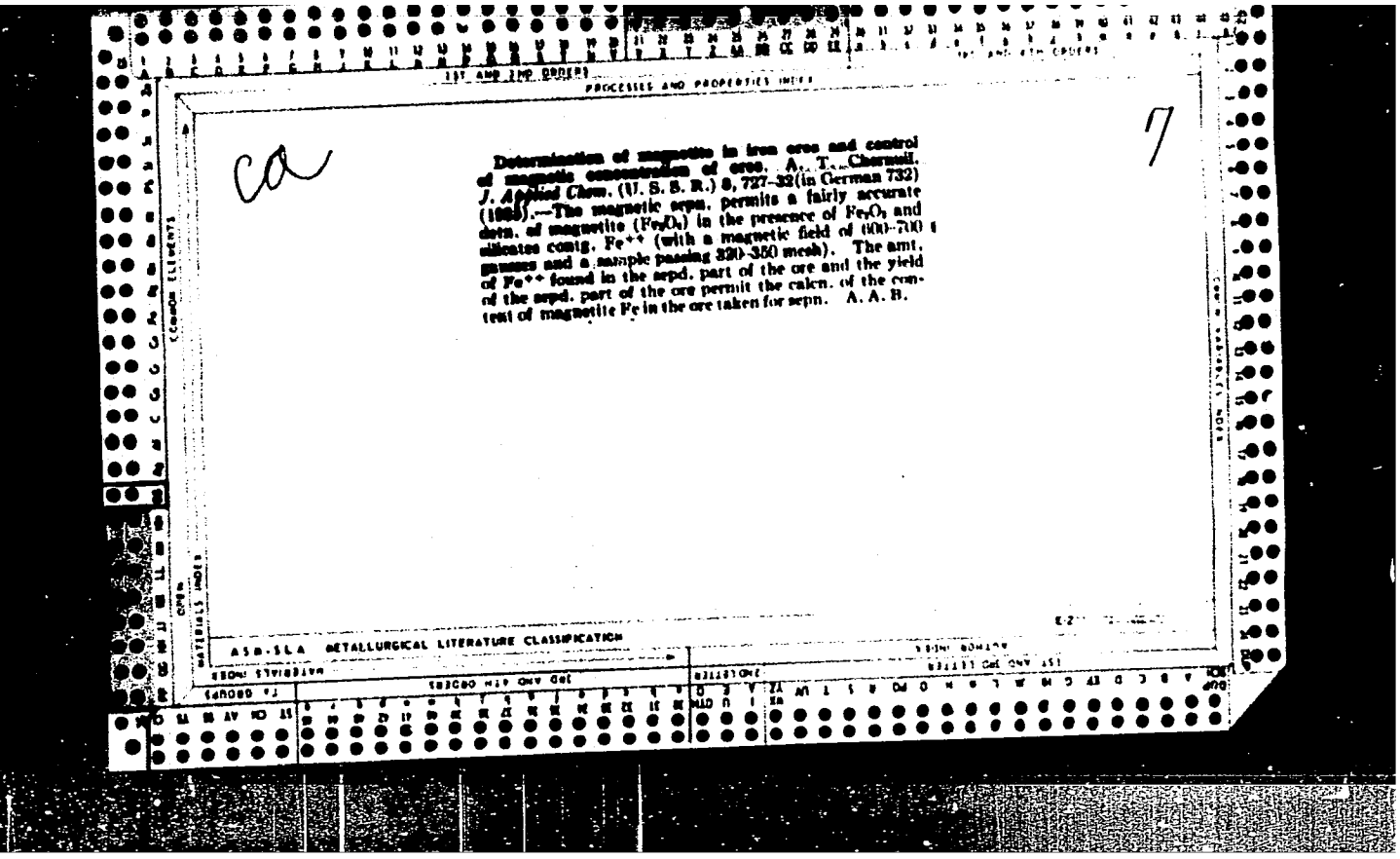
KOZIN, V.P., assistent; PASESHNIK, V.V., assistent; GRINSHPAN, R.G., inzh.; CHERNYY A.S.; OATUL, A.A., dotsent, kand. tekhn. nauk

Experimental research on a precast reinforced concrete conveyor gallery. Sbor. trud. Inzh.-stroi. fak. Chel. politekh. inst. no.3:83-90 '63. (MIRA 17:9)

1. Chelyabinskiy Gosudarstvennyy proyektnyy institut po obshchestroitel'nomu i sanitarno-tekhnicheskomu proyektirovaniyu promyshlennykh predpriyatiy Gosstroya SSSR (for Grinshpan). 2. Trest Chelyabmetallurgstroy (for Chernyy).



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Determination of magnetite in iron ores and control of magnetic concentration of ores. A. T. Chernuil. *J. Applied Chem.* (U. S. S. R.) 8, 727–32 (in German 732) (1935).—The magnetic sepn. permits a fairly accurate detn. of magnetite (Fe_3O_4) in the presence of Fe_2O_3 and silicates contg. Fe^{++} (with a magnetic field of 600–700 gausses and a sample passing 320–350 mesh). The amt. of Fe^{++} found in the sepd. part of the ore and the yield of the sepd. part of the ore permit the calcn. of the content of magnetite Fe in the ore taken for sepn. A. A. B.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

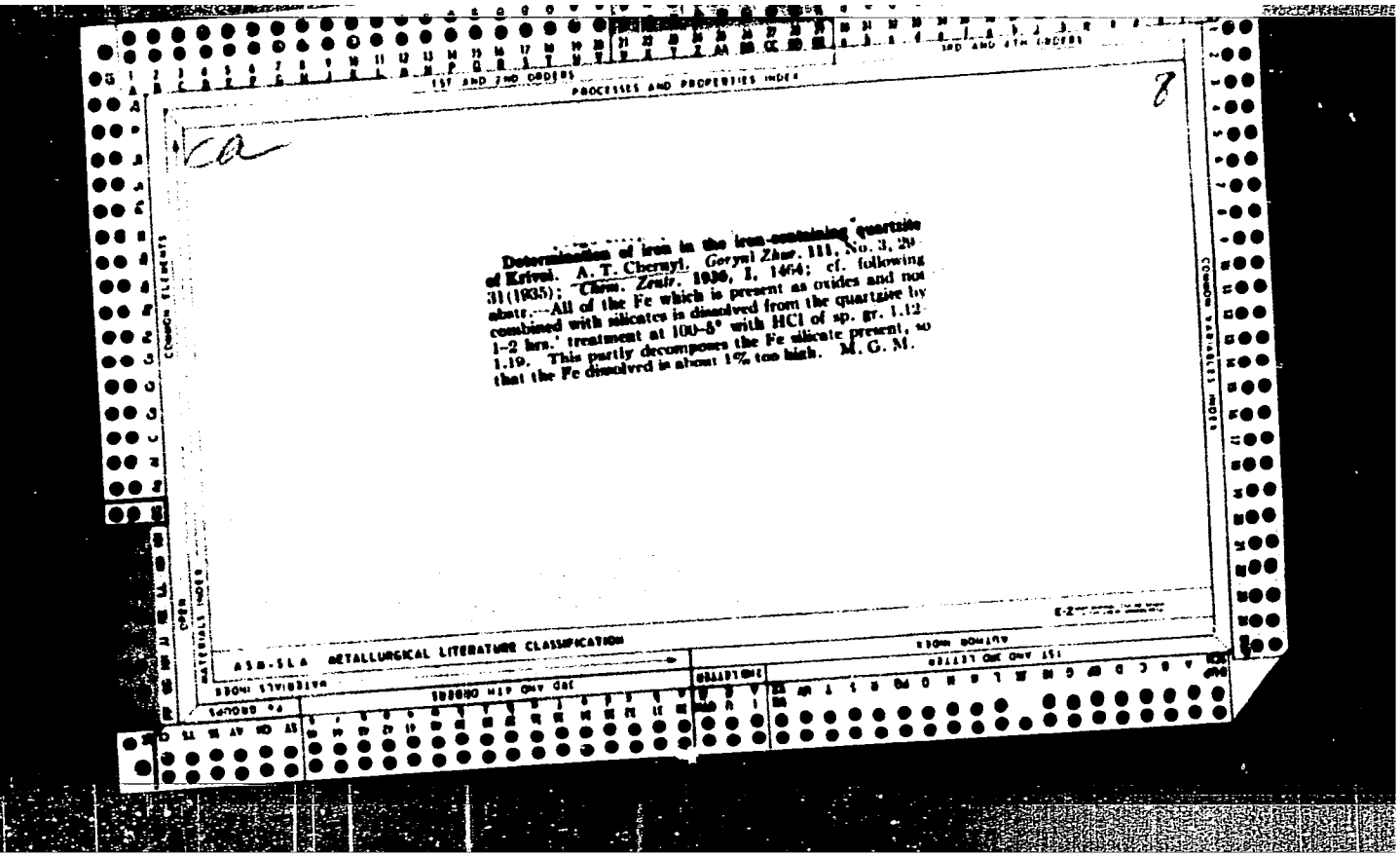
1ST AND 2ND ORDERS

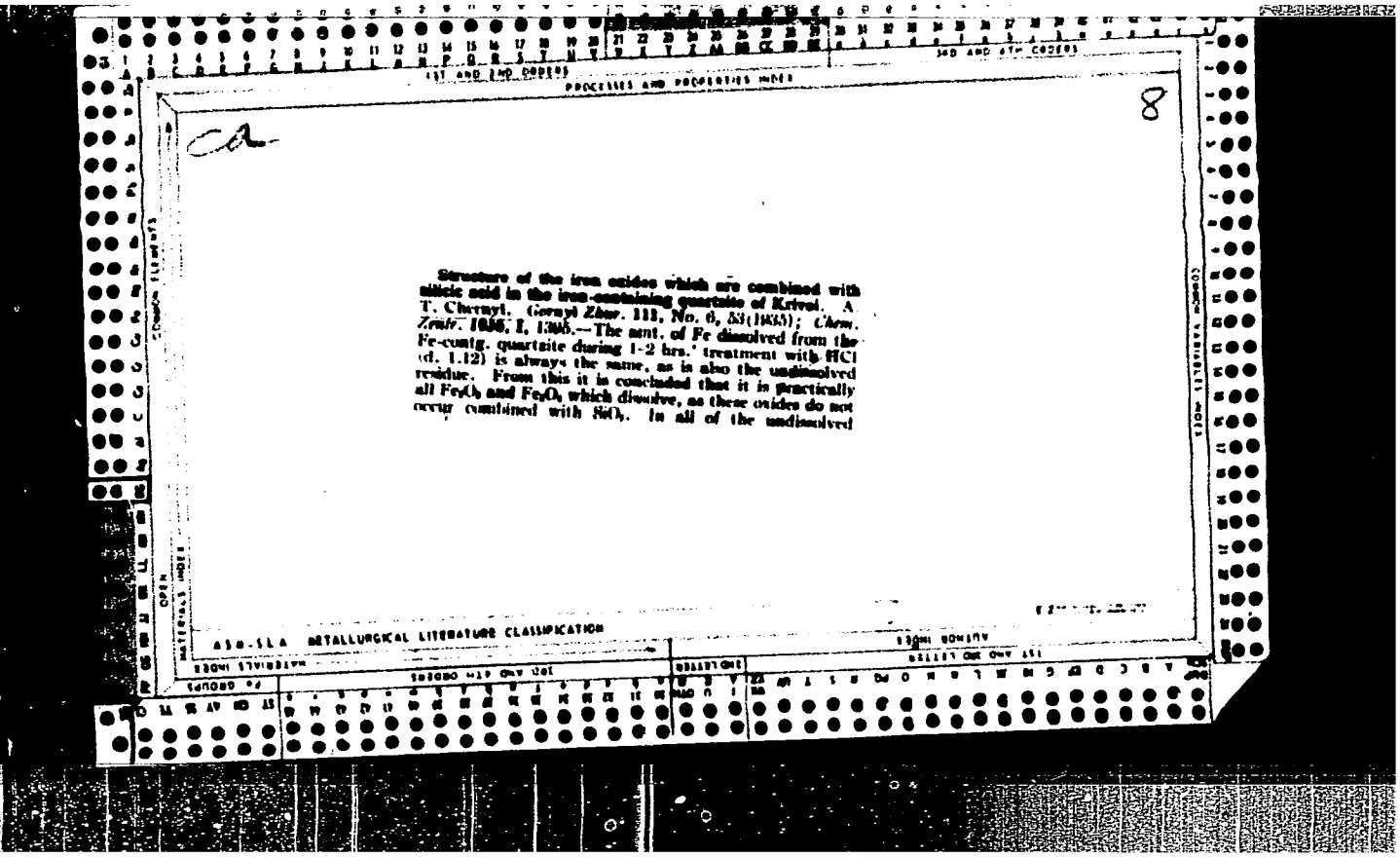
PROCESSES AND PROPERTIES INDEX

CA

Determination of total manganese in manganese ores and sludges. A. T. Chernuil. *J. Applied Chem.* (U. S. S. R.) 8, 1305-8(1935).—The ore is treated with concd. HCl, the soln. diltd., and NH_4F, excess of ZnO and $ZnSO_4$ are added to the boiling soln., which is then titrated at 100° with $KMnO_4$. H. C. A.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION





PROCESSES AND PROPERTIES INDEX

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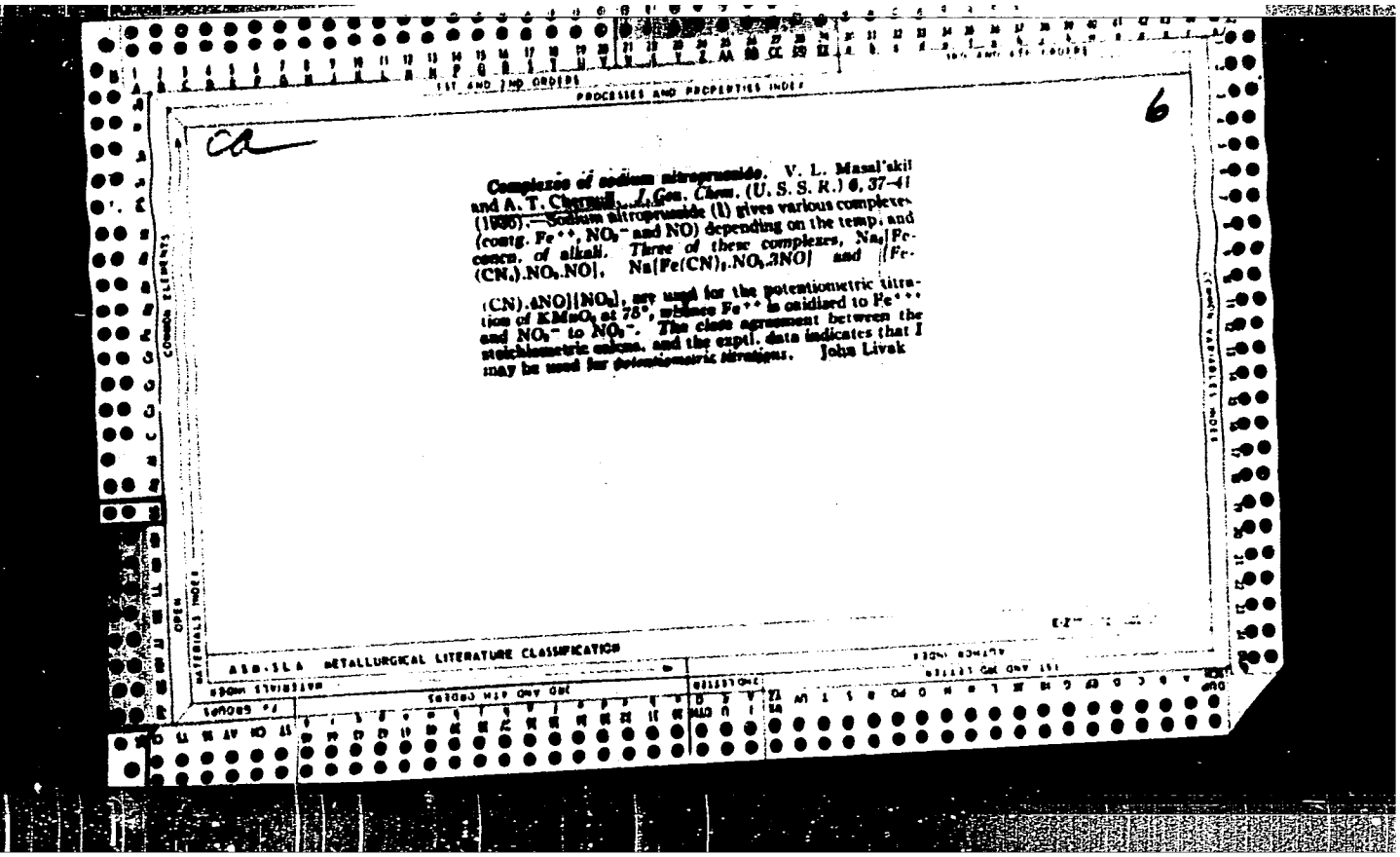
Structure of the iron oxides which are combined with silicic acid in the iron-containing quartzite of Krivoi. A. T. Chernyi. *Geruyi Zhur.* 111, No. 6, 53(1935); *Chem. Zentr.* 1936, I, 1305.—The amt. of Fe dissolved from the Fe-contg. quartzite during 1-2 hrs.' treatment with HCl (d. 1.12) is always the same, as is also the undissolved residue. From this it is concluded that it is practically all Fe_2O_3 and Fe_3O_4 which dissolve, as these oxides do not occur combined with SiO_2. In all of the undissolved

A58-51A METALLURGICAL LITERATURE CLASSIFICATION



6

Ca

Complexes of sodium nitroprusside. V. L. Masal'skii and A. T. Chernaii. *J. Gen. Chem. (U. S. S. R.)* 6, 37–41 (1936).—Sodium nitroprusside (I) gives various complexes (contg. Fe^{++}, NO_2^- and NO) depending on the temp. and concn. of alkali. Three of these complexes, $Na_2[Fe(CN)_4.NO_2.NO]$, $Na[Fe(CN)_5.NO_2.2NO]$ and $[Fe(CN)_4.4NO][NO_3]$, are used for the potentiometric titration of $KMnO_4$ at 75°, whereas Fe^{++} is oxidized to Fe^{+++} and NO_2^- to NO_3^-. The close agreement between the stoichiometric calcns. and the expt. data indicates that I may be used for potentiometric titrations. John Livak

1ST AND 2ND ORDERS

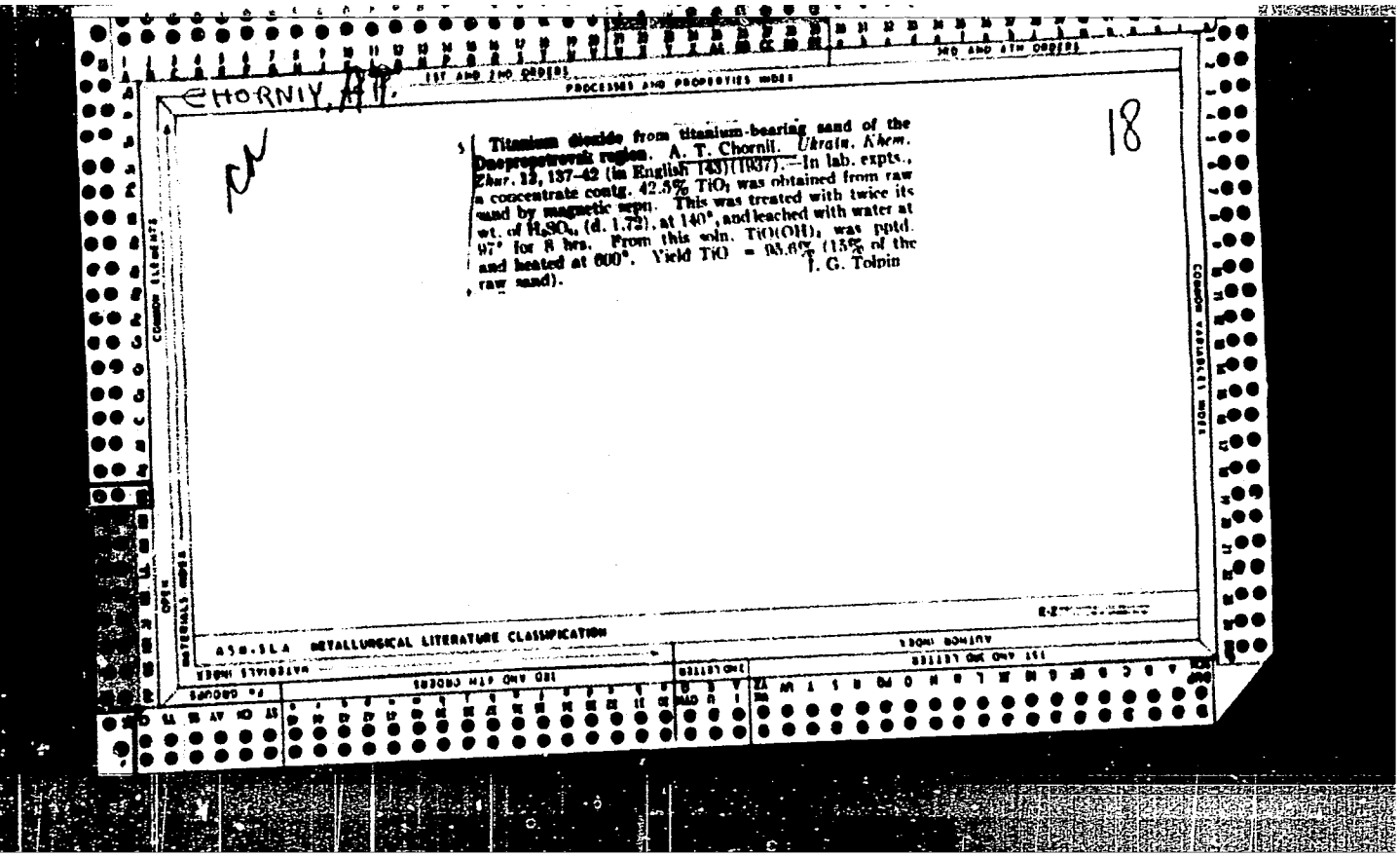
PROCESSES AND PROPERTIES INDEX

Co

7

The determination of cobalt in the presence of other cations. A. T. Chernuii. *Ukrain. Khem. Zhur.* 11, Wiss. Teil 13-14(1936).—To the soln. contg. HCl add dry salt or satd. soln. of NH_4CNS, then add a mixt. of alc. and ether and shake. If the mixt. turns red, add a few drops of HF or a few crystals of NH_4F and shake. The red color will disappear, and, if Co is present, the soln. will turn blue. B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



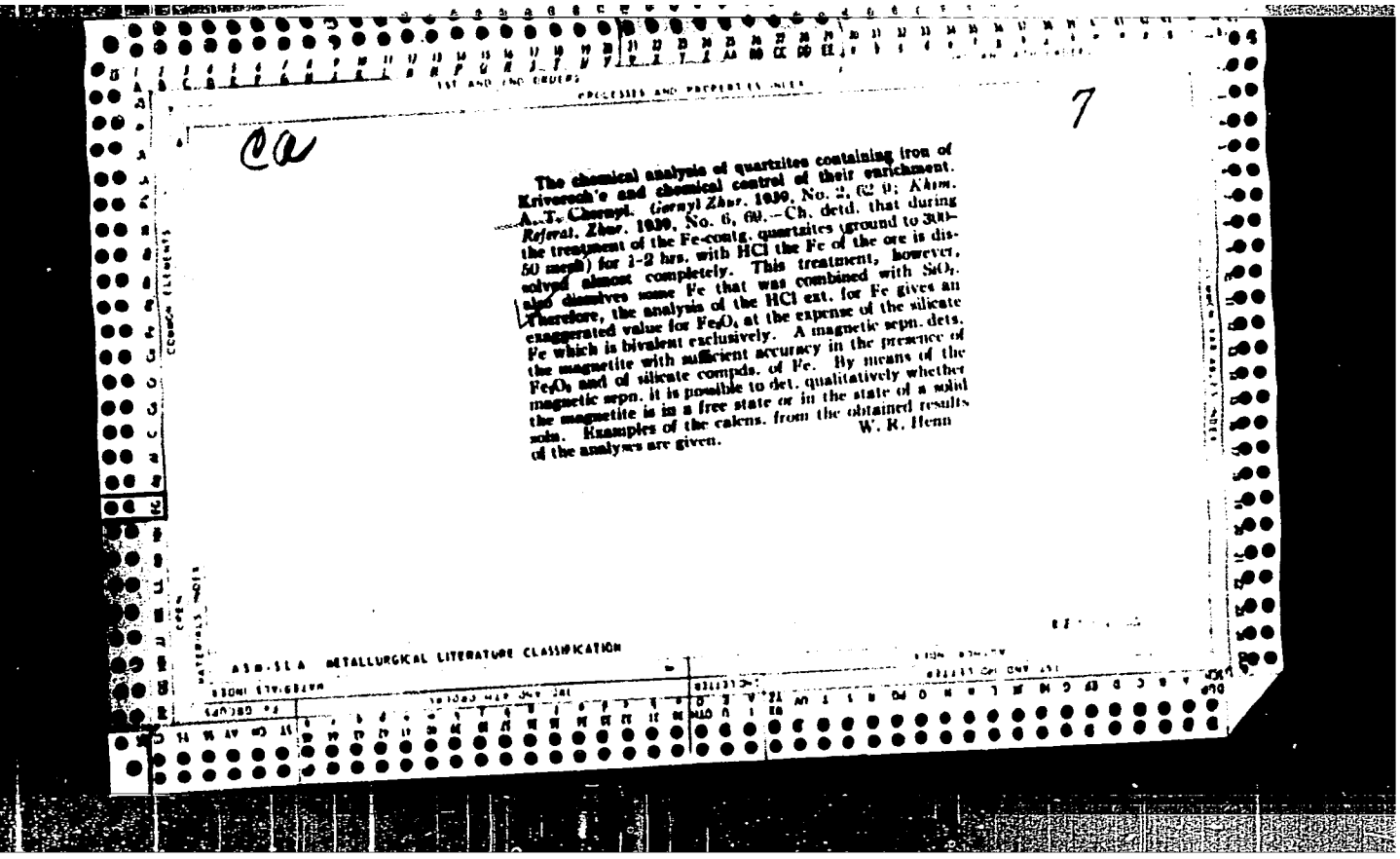
CHORNIY, A.T.

18

Titanium dioxide from titanium-bearing sand of the Dnepropetrovsk region. A. T. Chornii. *Ukrain. Khem. Zhur.* 13, 137–42 (in English 143)(1937).—In lab. expts., a concentrate contg. 42.5% TiO_2 was obtained from raw sand by magnetic sepn. This was treated with twice its wt. of H_2SO_4 (d. 1.73), at 140°, and leached with water at 97° for 8 hrs. From this soln. $TiO(OH)_2$ was pptd. and heated at 600°. Yield TiO = 93.6% (15% of the raw sand).

J. G. Tolpin

A58.SLA METALLURGICAL LITERATURE CLASSIFICATION



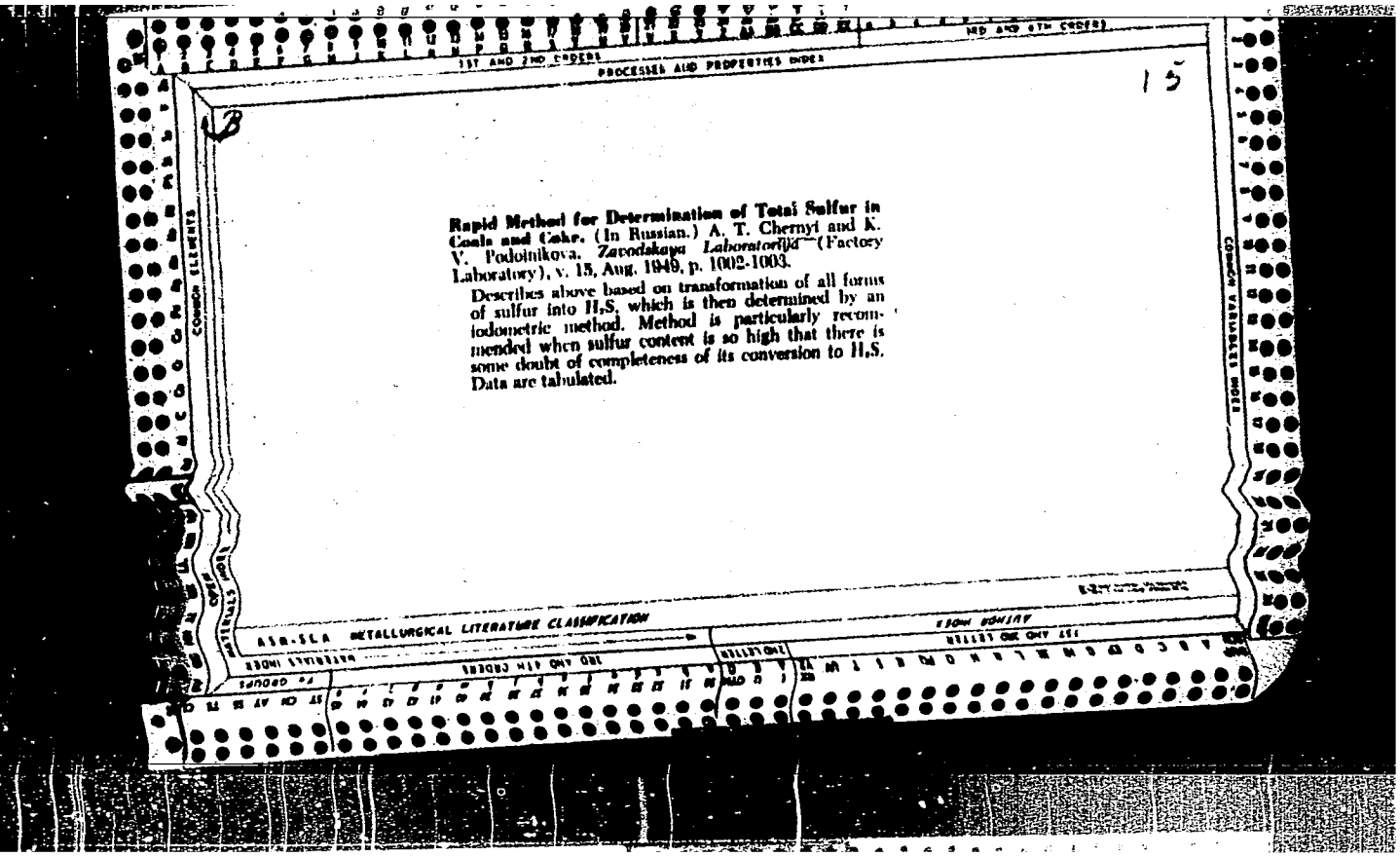
Ca

7

The chemical analysis of quartzites containing iron of Kriverogh's and chemical control of their enrichment. A. T. Chernyi. *Gornyi Zhur.* 1930, No. 2, 62 p.; *Khim. Referat. Zhur.* 1930, No. 6, 60.—Ch. detd. that during the treatment of the Fe-contg. quartzites (ground to 300–50 mesh) for 1–2 hrs. with HCl the Fe of the ore is dissolved almost completely. This treatment, however, also dissolves some Fe that was combined with SiO_2. Therefore, the analysis of the HCl ext. for Fe gives an exaggerated value for Fe_2O_3 at the expense of the silicate Fe which is bivalent exclusively. A magnetic sepn. dets. the magnetite with sufficient accuracy in the presence of Fe_2O_3 and of silicate compds. of Fe. By means of the magnetic sepn. it is possible to det. qualitatively whether the magnetite is in a free state or in the state of a solid soln. Examples of the calcns. from the obtained results of the analyses are given.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Rapid Method for Determination of Total Sulfur in Coals and Coke. (In Russian.) A. T. Chernyt and K. V. Podolnikova. *Zavodskaya Laboratoriya* (Factory Laboratory), v. 15, Aug. 1949, p. 1002-1003.

Describes above based on transformation of all forms of sulfur into H_2S, which is then determined by an iodometric method. Method is particularly recommended when sulfur content is so high that there is some doubt of completeness of its conversion to H_2S. Data are tabulated.

CHERNYY, A. T.

Journal of the Iron and Steel Institute
Vol. 176
Apr. 1954
Analysis

(2) 3

Determination of Various Forms of Sulphur in Rocks and Ores. A. T. Cherny and K. V. Tolmachova. [Zavodskaya Laboratoriya, 1950, 16, (10), 1169–1172]. [In Russian]. A method involving iodimetric titration and fusing with metallic calcium is described; it has been successfully applied to the determination of sulphide and sulphate sulphur in a number of iron-bearing and other ores.—S. K.

AF 9-20-54

CHERNYY, A. T.

18OT73

USSR/Metals - Analysis, Iron Ores Nov 50

"Determination of Metallic Iron in the Iron Ores After Their Reduction Roasting," A. T. Chernyy, K. V. Podoynikov, L'vov Agr Inst

"Zavod Lab" No 11, pp 1308, 1309

New method eliminates filtration which is major disadvantage of ordinary method because of partial oxidation of Fe^{+2} into F^{+3} with oxygen of the air during filtering process. Method is based on sintering sample of ore with aluminum oxide and flowers of sulfur in the atm of carbon dioxide with the

18OT73

USSR/Metals - Analysis, Iron Ores (Contd) Nov 50

successive passage of carbon dioxide and hydrogen chloride over mixt. Metallic iron converts into ferrous sulfide and then into ferrous oxide releasing equiv quantity of hydrogen sulfide.

18OT73

CA

7

Determination of sulfur in plant and animal materials. A. T. Chernyi and K. V. Pshidnikova (Agr. Inst., Lvov, Poland). *Biokhimiya* 15, 134-6(1950).—Heat 0.5 g. sample in an atm. of CO_2 with 2-3 g. $(COOH)_2$ and 1-2 g. metallic Ca at 750-800°. All the S is quantitatively transformed into H_2S, which is detd. iodometrically after absorption in a soln. of Cd and Zn acetates. The heating is conducted in a porcelain or quartz boat placed in a combustion tube ordinarily used in org. elementary analysis. The heating period is 10 min., and the whole detn. is over in 15 min. H. Priestley

— Lab. Inorg. & Anal. Chem.

C.A 7

Separate determination of arsenide-sulfide minerals in sulfide and arseno-sulfide ores. A. T. Chernyl and K. V. Paloinikova (L'vov Agr. Inst.). *Zavodskaya Lab.* 16, No. 7, 775-6(1950).—The method is based on differential thermal decomps. of the compds. and has been applied to numerous samples. Two samples of 0.5–1.0 g. mixed with 2–3 g. Al_2O_3 are placed in porcelain boats. One is heated in a combustion tube at 400° in CO_2 with effluent being washed successively by H_2O, and Zn and Cd acetate solns. to remove H_2S; heating 1 hr. generally suffices for the H_2S detn. The other boat is heated to 800°. The boat residues are analyzed for Ni, Co, and S and the difference between the 2 sets gives the Ni, Co, and S contained as arseno-sulfide minerals. Sulfide minerals decomp. at 300–400°, while arseno-sulfides require 450–500°, pyrites at 600–800°; arsenides at 600–800° evolve As and form lower arsenides. G. M. K.

C.A.

A rational analysis of nickel ores. A. T. Chernyi and K. V. Pukshinova (Lvov Agr. Inst.). *Zavodskaya Lab.* 10, [illegible] (1941).—The analysis is made after heating the minerals with Al_2O_3. The volatile and nonvolatile products are detd. Millerite in CO_2-steam atm. at 350–400° yields NiO and H_2S, while at 250–350° in CO_2-HCl-steam atm. it gives the same products. Polydymite similarly yields NiO, H_2S, and S. Violarite yields NiO, Fe_2O_3, H_2S, and S; pentlandite, NiO, Fe_2O_3, and H_2S. Gersdorffite yields at 450–500° in CO_2-H_2O NiO, As_2O_3, and H_2S, while at 350–400° in CO_2-HCl-steam it gives NiO, $AsCl_3$, and H_2S. Glaucodite under the above conditions yields NiO, CoO, As_2O_3, and H_2S or NiO, CoO, $AsCl_3$, and H_2S, resp. NiAs yields at 600–50° in CO_2-steam or CO_2-HCl-steam only NiAs, but $NiAs_2$ yields NiAs and As_2O_3, or NiAs and $AsCl_3$, resp. Nickelite under these conditions gives (Fe, Ni, Co) As and As_2O_3, or (Fe, Ni, Co) As and $AsCl_3$, resp. Anataxite yields NiO and As_2O_3, in either case. Morenosite yields $Ni_3(OH)_4SO_4$, while pyroaurite gives this substance and $MgSO_4$. Ni silicates under the above conditions yield partially NiO, MgO, Al_2O_3, and SiO_2. Ni and Co asbolane yields (partially) either NiO, Mn_2O_3, and CoO or NiO, $MnCl_2$, and CoO. Procedures for carrying out the decompns. are given.

G. M. Kosolapoff

USSR/Minerals - Arsenic Ores, Analysis Sep 50

"Efficient Analysis of the Arsenic Ores," A. T. Chernyy, K. V. Podoynikova, L'vov Agr Inst

"Zavod Lab" Vol XVI, No 9, pp 1031-1035

PA 169T65

Investigates method for separate determination of As in various combined forms. Method is based on hydrochemical transformation of certain As-containing minerals by sintering ore sample with Al oxide in various media, such as mixture of water vapor and carbon dioxide. Since different minerals react differently under various temperature conditions.

169T65

USSR/Minerals - Arsenic Ores, Analysis Sep 50
(Contd)

It permits consecutive decomposition of As-bearing minerals with subsequent transfer into solution of As which may be determined by ordinary methods.

169T65

CHERNYY, A. T.

CA

7

Determination of metallic iron in iron ores after reductive heat treatment. A. T. Cherepi and K. V. Podolnikova (Agr. Inst., Lvov). Zavodskaya Lab. 16, 1208-9(1950).—To det. metallic Fe in mints. with various Fe compds., fuse the specimen at 700–800° with Al_2O_3 and flowers of S in a CO_2 atm., followed by passage of CO_2 and HCl over the resulting mass. The Fe sulfide formed is decomposed by the HCl and the resulting H_2S is absorbed in a soln. of Cd and Zn acetates and detd. conventionally by the iodometric method. The sulfides originally present are detd. separately by fusion of a sample with Al_2O_3 exactly as above but the CO_2 is first passed through fuming HCl. The sulfide S thus found is recalcd. as Fe sulfide and this value is subtracted from the result of the 1st detn. G. M. Kosolapoff

CHERNYY, A. T. Doc Chem Sci -- (diss) "Chemical phase (rational) analysis of sulfide and mixed types of ores." L'vov, 1959. 29 pp (Acad Sci UkSSR. Inst of General and Inorganic Chem), 150 copies. List of author's works, pp 28-29 (30 titles) (KL, 47-59, 113)

PODOYNIKOVA, K.V.; CHERNYY, A.T.

Separate determination of various mineral forms of aluminum in bauxites. Zhur. prikl. khim. 36 no.12:2764-2767 D'63. (MIRA 17:12)

1. L'vovskiy sel'skokhozyaystvennyy institut.

PODOYNIKOVA, K.V.; CHERNYY, A.T.

Kinetics of interaction of hydrargillite, boehmite, diaspore, and kaolinite with carbon tetrachloride. Zhur. prikl. khim. 36 no.12:2625-2631 D'63. (MIRA 17:2)

1. L'vovskiy sel'skokhozyaystvennyy institut.

ACC NR: AP7001910 SOURCE CODE: UR/0387/66/000/012/0028/0036

AUTHORS: Karatayev, G. I.; Chernyy, A. V.; Gusev, Yu. M.

ORG: Institute of Geology and Geophysics, Siberian Division, Academy of Sciences, SSSR (Akademiya nauk SSSR, Sibirskoye otdeleniye, Institut geologii i geofiziki)

TITLE: Constructing linear operators in a correlation scheme for geologic interpretation of gravity and magnetic anomalies

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 12, 1966, 28-36

TOPIC TAGS: magnetic anomaly, earth gravity, data correlation, linear operator, random process, statistic distribution, approximation, mathematic matrix, vector

ABSTRACT: Problems of the joint correlation and regression analysis of geologic and geophysical data are examined. The main idea of a correlation model for geologic interpretation of gravity and magnetic anomalies was presented in an earlier work by G. I. Karatayev, Yu. M. Gusev, and A. V. Chernyy (Korrelyatsionnaya skhema postroyeniya geologicheskikh elementov po gravitatsionnym i magnitnym anomaliyam. Izv. AN SSSR, Fizika Zemli, No. 11, 1966). It is necessary to construct a geologic element λ_0 with an error not exceeding ε_0 in some specific region R^k according to the gravity and magnetic anomalies λ. The values of the geologic element λ_0 and the values of the gravity and magnetic anomalies are considered to be specific cases of

 UDC: 550.831+550.838

certain random values:

$$\begin{aligned}\lambda_0^c &= \{\lambda_{01}, \lambda_{02}, \ldots, \lambda_{0n}\},\\ \lambda_1^c &= \{\lambda_{11}, \lambda_{12}, \ldots, \lambda_{1n}\},\\ \lambda_2^c &= \{\lambda_{21}, \lambda_{22}, \ldots, \lambda_{2n}\},\\ &\ldots\\ \lambda_m^c &= \{\lambda_{m1}, \lambda_{m2}, \ldots, \lambda_{mn}\}.\end{aligned}$$

The joint multidimensional discrete distribution of these random values:

$$P(\lambda_0^c, \lambda_1^c, \lambda_2^c, \ldots, \lambda_m^c) = p_{vl}, \quad \sum_{v,l} p_{vl} = 1,$$

The conditional distribution of the random value λ_0^c:

$$P(\lambda_0^c | \lambda_1^c, \lambda_2^c, \ldots, \lambda_m^c) = \frac{P(\lambda_0^c, \lambda_1^c, \lambda_2^c, \ldots, \lambda_m^c)}{P(\lambda_1^c, \lambda_2^c, \ldots, \lambda_m^c)} = \frac{p_{vl}}{p_l},$$

where $p_l = \Sigma p_{vl} > 0$. A linear multivariate mean square regression is proposed for qualitative interpretation of the anomalies. The theory of automatic pattern recognition is used for the qualitative interpretation. Orig. art. has: 9 formulas.

SUB CODE: 08, 12/ SUBM DATE: 04Jul65/ ORIG REF: 015

ACC NR: AP6036358 SOURCE CODE: UR/0387/66/000/011/0045/0054

AUTHOR: Karatayev, G. I.; Gusev, Yu. M.; Chernyy, A. V.

ORG: Academy of Sciences, SSSR, Siberian Department, Institute of Geology and Geophysics (Akademiya nauk SSSR, Sibirskoye otdeleniye, institut geologii i geofiziki)

TITLE: Correlation scheme for the construction of geological elements from gravitational and magnetic anomalies

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 11, 1966, 45-54

TOPIC TAGS: gravitation anomaly, magnetic anomaly, geophysics, geologic exploration, correlation statistics, seismography, Mohorovicic discontinuity

ABSTRACT: A model is proposed for the construction of geological elements from gravitational and magnetic anomalies, based on an idea described by one of the authors earlier (Geologiya i geofizika, no. 10, 1964). The model is based on statistical (correlation) laws relating different geological-gravitational-magnetic situations and which are common to them, and the structure of the correlation and the geological interpretation of the gravitational and magnetic anomalies. The simplest features of the relations between the geological elements of the earth's crust and the anomalies in the gravitational magnetic field are outlined, and some ideas from the theory of gravitational-regression annals and automatic image recognition are employed. The mean square error in forecasting the values of geological elements is proposed as a criterion for the efficiency of the method. It is postulated that a standard region

Card 1/2 UDC: 550.831 + 550.838

ACC NR: AP6036358

exists, on which the anomalous fields are determined as well as the geological element sought in the concrete region. The correlation scheme was tested by means of several examples involving both quantitative interpretation (construction of deep-lying seismic boundaries such as the surfaces of the granite and basalt layers and of the Mohorovicic boundary, study of local foundation foldings, and calculation of isostatic anomalies) and qualitative interpretation (determination of the real composition of disturbing masses of gradation, distinction between ore-containing and ore-less magnetic anomalies) of some effects observed in SSSR territory. Orig. art. has: 7 formulas.

SUB CODE: 08, 12/ SUBM DATE: 04Aug65/ ORIG REF: 011

Card 2/2

CHERNYY, A.V.

Geologic interpretation of geophysical anomalies in the Turukhan-Yenisey interfluve. Trudy NIIGA no.125:102-112 '61. (MIRA 16:7)
(Turukhan Valley--Geology) (Yenisey Valley--Geology)
(Prospecting--Geophysical methods)

TAL'VIRSKIY, D.B.; CHERNYY, A.V.

Geology of the northern part of the Krasnoyarsk Territory. Mat. po geol. i pol.iskop.Kras.kraia no.3:153-163 '62. (MIRA 17:2)

ACCESSION NR: AR4032156 S/0058/64/000/002/A017/A017

SOURCE: Ref. zh. Fiz., Abs. 2A180

AUTHORS: Dorofeyev, V. A.; Zabiyakin, G. I.; Zamriy, V. N.; Markomenko, V. I.; Semashko, V. I.; Tulayev, B. P.; Cherny*y, A. V.; Shibayev, V. D.

TITLE: Automatization of the reduction of measurement results

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 4. M., Gosatomizdat, 1963, 7-14

TOPIC TAGS: measurement results, data reduction, computer data reduction, computer data insertion, computer memory, direct coupling data insertion, rigid coupling free coupling

TRANSLATION: Problems are discussed involved in the automatization of the reduction of the experimental data obtained in multichannel

Card 1/3

ACCESSION NR: AR4032156

analyzers, multicounter systems (hodoscopes), and bubble chambers. It is concluded that it is most sensible to employ for this purpose the existing universal digital computers, capable of solving all mathematical problems. The most rational method of inserting the information is by direct coupling. An analysis based on estimates of the insertion of information into different units of a universal computer is shown that a system in which a large number of experimental data are inserted into the magnetic memory of the computer is among the most advantageous. Two possible coupling variants are considered: "rigid" coupling, when the information is inserted into the memory with the aid of the electronic units of the computer, and "free"coupling, when the information insertion does not depend on the state of the computer, but additional electronic apparatus is used for this purpose. The most promising and advantageous is the "free" coupling. The information is recorded on magnetic tape in this case in the form selected for the given type of computer. This makes it possible to accumulate the experimental data over a

ACCESSION NR: AR4032156

long time without tying up the computer at the same time, and to process the experimental data without any insertion operations, by direct access to the magnetic memory. Specific features of automatized insertion of experimental data into a computer are discussed. L. I.

DATE ACQ: 31Mar64 SUB CODE: CP, SD ENCL: 00

Card 3/3

VALITOV, Rafkat Amirkhanovich; PALATOV, Konstantin Ivanovich; CHERNYY, Arkadiy Yevelevich; TRET'YAKOVA, A.N., red.; SMILYANSKAYA, T.M., tekhn. red.

[Methods for measuring the principal characteristics of fluctuating signals] Metody izmereniia osnovnykh kharakteristik fluktuatsionnykh signalov. Pod red. R.A.Valitova. Khar'kov, Izd-vo Khar'kovskogo gos. univ. im. A.M.Gor'kogo, 1961. 140 p. (MIRA 15:4)

(Radio measurements) (Radio—Testing)

L [illegible]

ACCESSION NR [illegible]

AUTHOR: [illegible] Chernyy, A. Ye., [illegible]

TITLE: System [illegible] measuring the drift angle and flight speed [illegible]

Class 21, No. [illegible]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 38

TOPIC TAGS: [illegible] measurement, drift angle measurement [illegible] Doppler effect

ABSTRACT: [illegible] system is based on the use of the [illegible] continuous radi[illegible] and reception of electromagnetic waves [illegible] Measurement accuracy is improved by simultaneous reception [illegible] two points on the terrain swept by a pair of antenna beams. [illegible] well as to reduce the weight of the unit, a single [illegible] is equipped with an electron commutator to switch the [illegible] A converted signal from the transmitter serves as a heterodyne [illegible] has: 1 figure. [JP]

ASSOCIATION: none

Card 1/2

CHERNYY, B. A.

Chernyy, B.A. and Sinyakov, P.V. [Dnepropetrovsk, Gosudaretvennyy universitet (State University, Dnepropetrovsk)] Electrical Properties of Multicomponent Seignette-Ceramics

(The Physics of Dielectrics; Transactions of the All-Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1958. 245 p. 3,000 copies printed.

This volume publishes reports presented at the All-Union Conference on the Physics of Dielectrics, held in Dnepropetrovsk in August 1956, sponsored by the "Physics of Dielectrics" Laboratory of the Fizicheskiy institut imeni Lebedeva AN SSSR (Physics Institute imeni Lebedev of the AS USSR), and the Electrophysics Department of the Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University).

65953

SOV/58-59-4-8500

24.7700

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 4, pp 159 - 160 (USSR)

AUTHORS: Sinyakov, P.V., Chernyy, B.A.

TITLE: Electric Properties of Multicomponent Ferroelectric Ceramics

PERIODICAL: V sb.: Fiz. dielektrikov. Moscow, AS USSR, 1958, pp 203 - 209. Diskus., p 210

ABSTRACT: The authors investigated solid solutions of $BaTiO_3$ - $NiZrO_3$ and $BaTiO_3$ - $NiZrO_3$ - $ZnTiO_3$. Increasing the concentration of $NiZrO_3$ and $NiZrO_3$ - $ZnTiO_3$ in $BaTiO_3$ lowers the Curie point regularly. The shift in the Curie point is accompanied by a smoothing-out of the temperature maximum of ε and $tg\delta$. As is consonant with the dependence of $tg\delta$ on the concentration of $NiZrO_3$, samples containing 20% of $NiZrO_3$ show the least losses. The combination of small losses ($tg\delta = 4 \cdot 10^{-4}$) with a high ε (at 20°C $\varepsilon = 570$) presents a practical interest. In the temperature course of electric conductivity in polycrystalline $BaTiO_3$ a jump of the conductivity is observed at the Curie point. Introducing $ZnTiO_3$ into the

Card 1/2

65953

Electric Properties of Multicomponent Ferroelectric Ceramics SOV/58-59-4-8500

$BaTiO_3$ - $NiZrO_3$ system leads to a sharp increase in the volume resistivity and activation energy of the conductivity. A measurement of the thermo-emf showed that $ZnTiO_3$ possesses hole conductivity in a wide temperature range. (Un-t, Dnepropetrovsk, USSR).

The authors' conclusions

Card 2/2

BELOZEROVA, Anastasiya Sergeyevna; VETRYUK, Ivan Martynovich; GODILO, Petr Viktorovich; ZUBAREV, Georgiy Nikolayevich; KOVAL'CHUK, Leonid Mikhaylovich; KSYUNINA, Nina Grigor'yevna; NIKIFOROV, Yuriy Nikolayevich; PARINI, Yevgeniy Pavlovich; PATUROYEV, Vasiliy Vasil'yevich; PETROV, Igor' Stepanovich; CHERNYY, Boris Grigor'yevich; GUBENKO, A.B., doktor tekhn. nauk, red.; SAKHAROV, M.D., red.; MAKSAKOVA, A.M., red.izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Glued wooden elements and techniques for their manufacture] Kleenye dereviannye konstruktsii i tekhnologiia ikh izgotovleniia. [By] A.S.Belozerova. i dr. Moskva, Goslesbumizdat, 1962. 180 p. (MIRA 16:5)

(Gluing)

CHERNYY, B.G.; ROBEYKO, A.K.

Press for testing glued wooden beams. Rats. i izobr. predl. v strei. no.116:30-31 '55. (MLRA 9:7)
(Girders) (Testing machines)

BELOZEROVA, A.S.; ZUBAREV, G.N.; CHEBANENKO, M.A.; CHERNYY, B.G.

Construction of a warehouse made of glued wooden elements.
Prom.stroi. 40 no.6:11-14 '62. (MIRA 15:6)
(Potassium salts--Storage)
(Warehouses)

CHERNYY, B.I. (Groznyy); KRAVTSOV, G.I. (Groznyy); [illegible], A.P. (Groznyy); MAL'TSEV, P.A. (Groznyy)

Joint performance of building and foundation bed under conditions of great deformations during the compaction of loess strata by the weight of the structure. Osn., fund. i mekh. grun. 7 no.3: 13-16 '65. (MIRA 18:6)

CHERNYY, B. K.

USSR/Physics - Polarization May 51

"Dynamics of the Process of Polarization of Barium Titanate," Ye. V. Sinyakov, Ye. A. Stafiychuk, B. K. Chernyy, Dnepropetrovsk State U

"Zhur Eksper i Teoret Fiz" Vol XXI, No 5, pp 610-617

Investigates dynamics of process of polarization of barium titanate with aid of short rectangular impulses of const flow. Also obtains dependence e = f(E) for times of impulse equal to 10^{-5}-10^{-6} sec. Expresses assumption that admixts of barium ions play main roles in producing piezoelec (Seignette-elec) properties of $BaTiO_3$. Submitted 23 May 50.

183T98

CHERNYY, B. K.

USSR/Electricity - Dielectrics Feb 52

"Potential Distribution in Barium Metatitanate and in Other Ceramic Dielectrics," Ye. V. Sinyakov, B. K. Chernyy, Chair of Electrophys, Dnepropetrovsk State U

"Zhur Tekh Fiz" Vol XXII, No 2, pp 265-267

Test results proved that potential distribution in all tested materials TiO_2, (Ba - Sr) TiO_3 and $BaTiO_3$ remains linear in a wide range of temp and is independent of time during which sample is exposed to elec field. These results agree with conclusions by Ksendzov (cf. "Zhur Tekh Fiz" 20, 117, 1950) stating that titanium dioxide consists of a dielec and a semiconducting phase. Received 29 May 51.

209T53

SINYAKOV, YE. V., STAFIICHUK, YE. A., CHERNYY, B. K.

Kosman, M. S.

Authors' reply to remarks of M. S. Kosman on their article "Dynamics of polarization process of barium titanate." Zhur. eksp. i teor. fiz. 23 No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SINYAKOV, Ye.V.; CHERNYY, B.K.

X-ray diffraction study of the system $BaTiO_3$ - $NiO \cdot ZrO_2$.
Fiz. tver. tela 1 no.2:352-354 F '59. (MIRA 12:5)

1.Dnepropetrovskiy gosudarstvennyy universitet.
(Systems (Chemistry)) (X-ray crystallography)

CHERNYY, B.K.

PHASE I BOOK EXPLOITATION SOV/4379

Vsesoyuznaya konferentsiya po fizike dielektrikov. 2d, 1958

Fizika dielektrikov; trudy vtoroy vsesoyuznoy konferentsii (Physics of Dielectrics, Transactions of the 2d All-Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1960. 532 p. Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Fizicheskiy institut imeni P.N. Lebedeva.

Ed. of Publishing House: Ye.L. Starokadomskaya; Tech. Ed.: I.N. Dorokhina; Editorial Board: (Resp. Ed.) G.I. Skanavi, Doctor of Physics and Mathematics (Deceased), and K.V. Filippova, Candidate of Physics and Mathematics.

PURPOSE: This collection of reports is intended for scientists investigating the physics of dielectrics.

COVERAGE: The Second All-Union Conference on the Physics of Dielectrics held in Moscow at the Fizicheskiy institut imeni P.N. Lebedeva (Physics Institute imeni P.N. Lebedev) in November 1958 was attended by representatives of the principal scientific centers of the USSR and of several other countries. This collection contains most of the reports presented at the conference and summaries of the discussions which followed. The reports in this collection deal with dielectric properties, losses, and polarization, and with specific inductive capacitance of various crystals, chemical compounds, and ceramics. Photoelectrets, ferroelectric crystals, and various radiation and irradiation effects on dielectrics are investigated. The volume contains a list of other papers presented at the conference dealing with polarization, losses, and breakdowns of dielectrics, which were published in the journal Izvestiya AN SSSR, seriya fizicheskaya, Nos. 1 and 2, 1960. No personalities are mentioned. References accompany each report.

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S/048/60/024/010/020/033
B013/B063

AUTHORS: Sinyakov, Ye. V. and Chernyy, B. K.

TITLE: The Problem of the Electrical Conductivity of Barium Titanate and of Some Solid Solutions on Its Basis

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960, Vol. 24, No. 10, pp. 1255 - 1258

TEXT: The authors studied the activation energy of alkali earth perovskites. Table 1 lists values for the activation energy of alkali earth titanates on the basis of Ref.1 and measurements of $BaZrO_3$ and $SrZrO_3$. Table 2 contains the activation energies of solid $Ba(Ti,Zr)O_3$ and $Ba(Ti,Sn)O_3$ solutions with an increase of the concentration of $BaZrO_3$ and $BaSnO_3$ according to data from Ref.3. These data indicate that the conduction band in barium titanate is formed by the levels of titanium ions. The investigations described in Ref.5 and in the present paper show that a jumplike rise of electrical conductivity occurs at the

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Curie point. Fig.1 shows the functions of $\log\sigma = f(1/T)$ for barium titanate with or without admixtures. The percentual content of admixtures in $BaTiO_3$, the Curie points, and the values of resistivity for the compositions under consideration are specified in Table 3. It is noted that the increase of electrical conductivity in the region of phase transition is primarily due to a re-formation of the lattice and a lowering of the conduction band. The electrical conductivity of solid $(Ba,Ni)(Ti,Zr)O_3$ and $(Ba,Co)(Ti,Zr)O_3$ solutions was studied between 260 and 50°C within a field of 0.55 kv cm^{-1}. The dependence of electrical conductivity at 181°C and of the activation energy upon the composition is illustrated in Fig.3. It was found that in the system $(Ba,Ni)(Ti,Zr)O_3$, the decrease of electrical conductivity in the region of formation of solid solutions is related to the substitution of barium ions by nickel ions. Substitution of barium ions by cobalt ions in the system $(Ba,Co)(Ti,Zr)O_3$ leads to an increase of electrical conductivity. A reverse effect of nickel and cobalt ions, observed by the authors, is

The Problem of the Electrical Conductivity of Barium Titanate and of Some Solid Solutions on Its Basis

probably related to the fact that the electron shells of these ions are filled (Ni^{2+}-$3d^8$; Co^{2+}-$3d^7$). The thermo-emf was measured on the same samples as the electrical conductivity. The coefficient of the thermo-emf as a function of log σ for the system $(Ba,Co)(Ti,Zr)O_3$ is illustrated in Fig.3. It may be seen that the relation $\alpha = A - C \log \sigma$ (Fig.3) which is well known for impurity semiconductors is valid in this case. α is the coefficient of the thermo-emf, σ the electrical conductivity, and A and C are constants. The value of C determined for $(Ba,Co)(Ti,Zr)O_3$ is similar to the theoretical value ($2 \cdot 10^{-4}$). In the case of barium titanate and solid solutions of $(Ba,Ni)(Ti,Zr)O_3$, C is three or four times greater than the theoretical value. The present paper was read at the Third Conference on Piezoelectricity, which took place in Moscow from January 25 to 30, 1960. There are 3 figures, 3 tables, and 10 references: 8 Soviet.

Card 3/3

CHERNYY, D.Ye. (Saratov)

Geometry of Lagrange's variational problem with a double integral in X_4. Izv. vys.ucheb.zav.; mat. no.1:153-165 '64. (MIRA 17:5)

GOLOMIDOV, I.N., kand.tekhn.nauk; PIRUSHKO, M.G., inzh.; CHERNYY, E.S., inzh.

Amplidyne system for the control of powerful excavators. Izv. vys. ucheb. zav.; gor. zhur. no.12:115-116 '60. (MIRA 14:1)

1. Sverdlovskiy gornyy institut imeni V.V. Vakhrusheva. Rekomendovana kafedroy obshchey elektrotekhniki Sverdlovskogo gornogo instituta.

(Excavating machinery) (Rotating amplifiers)

CHERNYY, F.A.

[illegible] Medica Sec.4 Vol.11/7 Microbiology, [illegible] and Serology July 58

1945. [illegible] EFFICACY OF SINGLE-DOSE ANTI-INFLUENZA IMMUNIZATION WITH POLYVALENT VACCINE (Russian text) - Chernyy F. A. Leningrad - VRAC. DELO 1957, 2 (175-178) Tables 5

762 adults were immunized against influenza in December 195[illegible], and 420 adults in December 1955. The non-immunized control groups comprised [illegible] and [illegible] individuals respectively. The vaccine consisted of allantoic cultures of live attenuated strains of influenza viruses A, A_1, and B_1, starch, and [illegible] [illegible]. The vaccine was in powder form. The immunization was carried out once by introducing up to 0.5 g. of the vaccine into the upper respiratory passages. There were only insignificant reactions, and no loss of working-time among the vaccinated. [illegible] epidemic outbreak of influenza in the observed group took place in March 195[illegible]. Before that, there were only isolated cases. The clinical diagnosis of influenza was confirmed, in the majority of cases, by serological reactions. Serological tests showed that in 1955 the influenza cases were caused mostly by virus type B, and in 1956 only by type A_1. The observations showed the complete lack of effect of this immunization which, in the author's opinion, is the result of the low quality of the vaccine, and of the absence in it of the type of virus which caused the outbreak in the town.

Chakhova - Moscow (S)

CHERNYY, F. B. Cand. Physicomath. Sci.

Dissertation: "Skin-Effect in an Aperiodic Magnetic Field." Moscow Order of Lenin State U. imeni M. V. Lomonosov. 26 Mar. 1947

SO: Vechernyaya Moskva, Mar. 1947 (Project #17836)

CHERNYY, F. B.

PA 21T22

USSR/Electronics Jan 1947

Magnetization
Magnetic Measurements

"A Periodic Magnetization of a Sphere," F. B. Chernyy, 4 pp

"Dok Ak Nauk SSSR" Vol LV, No 3

Submitted by S. I. Vavilov, 23 Sep 46. Investigation of the occurrence of magnetism in a sphere which is subjected to a sudden continual uniform magneti field, and the disappearance of magnetism during a continual absence of a magnetic field. The results obtained found practical use in the determination of a formula to calculate the prevalence of a magnetic field in a sphere for either long or short periods of time, t.

21T22

PHASE I BOOK EXPLOITATION SOV/6008

Chernyy, F. B.

Rasprostraneniye radiovoln (Radio Wave Propagation) Moscow, Izd-vo "Sovetskoye radio", 1962. 479 p. 20,000 copies printed.

Ed.: V. G. Masharova; Tech. Ed.: A. A. Sveshnikov.

PURPOSE: This textbook is intended primarily for students of electrical engineering studying radio wave propagation at schools of higher education; it may also be useful to radio and microwave specialists.

COVERAGE: The book deals with the basic theoretical rules governing radio wave propagation and the basic experimental data on these phenomena. The basic methods of investigating radio wave propagation are described, with special emphasis on the mathematical analysis of the problems discussed. The reader's knowledge of electromagnetic field theory and

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his sufficient grounding in mathematics are assumed. The author thanks Ya. S. Shifrin, N. V. Osipov, F. G. Bass, and V. A. Misyura for their assistance. There are 57 references, of which 50 are Soviet and 7 English.

TABLE OF CONTENTS [Abridged]:

Radio Wave Propagation SOV/5008

AVAILABLE: Library of Congress

SUBJECT: Electronics -- Wave propagation

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RZ/dmp/tem
11-27-62

ACC NR AM5027749 Monograph UR/ 20

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.; Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A. S.; Frosin, A.V.; Ryskin, E. YA.; Sokolov, A. V.; Tarasov, V.A.; Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.; Chernyy, F. B.; Shabel'nikov, A. V.; Shirov, R. A.; Shifrin, YA. S.; Shur, A. A.; Yakovlev, O. I.; Kolosov, M. A.; Lovshin, I. P.; Lomakin, A. N.

Upper tropospheric propagation of ultrashort radio waves (Dal'neye troposfernoye rasprostraneniye ul'trakorotkikh radiovoln) Moscow, Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio communication, space communication, tropospheric scatter communication, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists working in the field of radiowave propagation, designers of long-distance radio communication systems, and teachers and students of the advanced courses in schools of higher technical education. The monograph contains, for the most part, heretofore unpublished results of Soviet experimental and theoretical investigations in the field of long-distance tropospheric ultrashortwave propagation.

Card 1/10 UDC: 621.37.24

ACC NR: AM5027749

Problems of investigating the troposphere by means of refractometers, the mean level of signals, meteorological conditions and topography, fluctuation of arrival angles and distortions of antenna directivity patterns, losses in antenna gain, and quick and slow fadings of signal levels are discussed. The statistical characteristics of the signals at diversity reception in time, space, frequency and angle as well as the distortion of signals in the communication systems are also investigated. The long-distance propagat- theory is analyzed, and the engineering method of calculating field intensity at long-distance tropospheric propagation is given. At present, there is no theory of Long-Distance Tropospheric Propagation which can be applied effectively enough in practice. Thus, in the investigation of that propagation, considerable attention has to be paid to experiments. The special characteristics of geographical conditions of the territory involved should be taken into consideration during the analysis of experimental data and in their practical application because the conditions of propagation in arctic and tropical climates differ from those existing over seas and continents. A considerable part of the monograph deals with the investigations of long-distance tropospheric propagation carried out over dry land routes, 800 km long, in the central part of the USSR under the general supervision of B. A. Vvedenskiy and A. G. Arenberg (up to 1957). V. I. Siforov investigated problems con-

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ACC NR: AM5027749

nected with distortions and fluctuations of signals. References follow each chapter.

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